

REMARKS

Claims 1-28 are pending in the application. No claims are amended in the present response, however, Applicant has provided a listing of the claims for the Examiner's convenience. Reconsideration is respectfully requested in view of the following remarks.

I. Allowable Subject Matter

Applicant wishes to thank the Examiner for indicating that claims 6, 8, 15, 17, 22 and 24 recite allowable subject matter, and that the claims would be allowable if rewritten in independent form including the limitation of the base claim and any intervening claims.

II. The § 102 Rejections

Claims 1-5, 9-14, 16, 18-21, 23 and 25-28 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,675,163 ("Bass"). Applicant respectfully traverses the rejections.

Claim 1 recites a method for optimizing leaf comparisons from a tree search of data stored in a tree structure. The method includes providing a control structure for leaf data comparisons. The control structure includes a control vector and a match key, in which the control vector indicates a type of comparison test to be performed on the match key. The method further includes storing the control structure including the control vector and the match key within a leaf of the tree structure.

A potential advantage of storing such a control structure within a leaf is that a more optimized key compare with improved performance and flexibility can occur with all information needed for the key compare being contained within each leaf (Applicant's specification page 6, lines 15-19).

*A. Bass Fails To Disclose a Storing a Control Structure of the Kind Recited In Claim 1
Within a Leaf of a Tree Structure*

Bass discloses a method and apparatus for finding a full match between a search pattern and a pattern stored in a leaf of a search tree (see Abstract). In particular, Bass discloses a Patricia tree structure having leaves that stores hash keys. Each leaf corresponds to a single key that matches exactly an input key (of a search algorithm) (col. 4, ll. 24-47). Fig. 5 of Bass illustrates a leaf that contains a key, along with aging information and user information (col. 9, ll. 17-25).

While Bass discloses storing a key within a leaf of a tree structure, Bass fails to disclose storing a control vector within the leaf of the tree, in which the control vector indicates a type of comparison test to be performed on the key, as recited in claim 1. Instead, Bass specifically discloses that the type of search action to be performed on a key (within a leaf of Bass's Patricia tree structure) resides in a lookup definition table (LUDefTable). The LUDefTable is implemented as three separate random access memories which are not contained within a leaf (col. 10, ll. 5-16, emphasis added).

The Examiner cites column 10, lines 22-45 of Bass as disclosing storing a control structure (that indicates a type of comparison test to be performed on the match key) within a leaf of a tree structure. Applicant respectfully disagrees. In the cited portion, Bass discloses enabling colors within a tree. A color is an additional pattern that can be used to distinguish between different keys. For example, a color could represent a VLAN ID in a MAC source address in which an input key represents the MAC source address and the color represents the VLAN ID. Accordingly, the color is a part of the key pattern and, therefore, can be used to distinguish between MAC source addresses of different VLANs (col. 10, ll. 35-43). The use of colors within a key, however, does not determine a type of search to be performed on the key. Consequently, Bass fails to disclose

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storing a control vector within the leaf of the tree, in which the control vector indicates a type of comparison test to be performed on the key, as recited in claim 1. Claim 1 is, therefore, allowable over Bass.

Claims 2-9 and 28 depend from claim 1, and are allowable over Bass for at least the same reason as those set forth with claim 1.

B. Other Independent Claims

Claims 10, 19, 26 and 27 incorporate limitations similar to those of claim 1. Claims 10, 19, 26 and 27 (and the claims that depend therefrom) are also allowable over Bass for reasons corresponding to those set forth with respect to claim 1.

In view of the foregoing, it is submitted that the claims 1-28 are allowable over the cited references and are in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,
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